

IN THE CLAIMS

All pending claims are listed below.

1. A process for the preparation of synthetic taxanes, comprising the following main steps in sequence: (1) protecting C(7)-OH using a protecting agent; (2) acylating -OH in taxanes using an acylating agent; and
5 (3) deprotecting the protecting agent at C(7)-position to reduce to C(7)-OH, characterized in that said protecting agent is a lanthanon compound.

2. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said lanthanon compound as the protecting agent is selected from the group consisting of a salt of lanthanon, a double
10 salt of lanthanon, an alkaline compound of lanthanon, a lanthanon chloride and a lanthanon oxychloride.

3. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said lanthanon compound as the protecting agent is selected from the group consisting of a lanthanon chloride, a
15 lanthanon hydroxide, a lanthanon oxychloride and a lanthanon sulfate double salt.

4. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said lanthanon compound as the protecting agent is a lanthanon chloride.

20 5. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said lanthanon compound as the protecting agent is a cerium salt.

6. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said lanthanon compound as the protecting
25 agent is cerium trichloride.

7. The process for the preparation of synthetic taxanes according to claim 1, characterized in using taxanes bearing C(7)-OH, C(10)-OH and C(13) side chain having C(2')-OH as the raw material.

8. The process for the preparation of synthetic taxanes according to claim 1, characterized in that said synthetic taxanes are paclitaxels.

9. The process for the preparation of synthetic taxanes according to claim 7, characterized in that said synthetic taxanes are paclitaxels.

10. The process for the preparation of synthetic taxanes according to claim 1, characterized in using tetrahydrofuran as a medium for acylation.

11. The process for the preparation of synthetic taxanes according to claim 7, characterized in using tetrahydrofuran as a medium for acylation.

12. The process for the preparation of synthetic taxanes according to claim 8, characterized in using tetrahydrofuran as a medium for acylation.

13. The process for the preparation of synthetic taxanes according to claim 9, characterized in using tetrahydrofuran as a medium for acylation.

14. The process for the preparation of synthetic taxanes according to claim 10, characterized in pre-dehydrating said tetrahydrofuran.

15. The process for the preparation of synthetic taxanes according to claim 11, characterized in pre-dehydrating said tetrahydrofuran.

16. The process for the preparation of synthetic taxanes according to claim 12, characterized in pre-dehydrating said tetrahydrofuran.

17. The process for the preparation of synthetic taxanes according to claim 13, characterized in pre-dehydrating said tetrahydrofuran.

18. The process for the preparation of synthetic taxanes according to claim 7, comprising the steps of:

- a) dissolving the raw material in tetrahydrofuran;
- b) adding lanthanon compounds for the protection of C(7)-OH;
- c) acylating by adding an acylating agent;
- d) neutralizing with an alkali after the acylation;
- 5 c) extracting with an organic solvent insoluble with tetrahydrofuran;
- f) removing the organic solvent in the extract phase to obtain 2', 10-diacyltaxane;
- g) dissolving the product in step f) in an inert solvent;
- 10 h) selectively hydrolyzing ester group at position C(2') with a weak aqueous alkali dissolved in the inert solvent in step (g), and meanwhile deprotecting the protecting agent of C(7)-OH;
- i) neutralizing with an acid;
- j) extracting with an organic solvent insoluble with the inert solvent
15 in step g) and water; and
- k) removing the organic solvent in the extract phase to obtain C(10) acylated taxanes bearing C(7)-OH and C(13) side chain having C(2')-OH.

19. The process according to claim 18, wherein tetrahydrofuran in step (a) is pre-dehydrated; the organic solvent insoluble with tetrahydrofuran in step (e) is selected from dichloromethane and trichloromethane; the inert solvent dissolving 2',10-diacyltaxanes in step g) is alcohols; the weak alkali selectively hydrolyzing acyl esters at position C(2') in step h) is selected from sodium bicarbonate, potassium bicarbonate, dimethylamine,

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- a) dissolving the raw material in tetrahydrofuran;
- b) adding lanthanon compounds for the protection of C(7)-OH;
- c) acylating by adding an acylating agent;
- d) neutralizing with an alkali after the acylation;
- 5 c) extracting with an organic solvent insoluble with tetrahydrofuran;
- f) removing the organic solvent in the extract phase to obtain 2', 10-diacyltaxane;
- g) dissolving the product in step f) in an inert solvent;
- 10 h) selectively hydrolyzing ester group at position C(2') with a weak aqueous alkali dissolved in the inert solvent in step (g), and meanwhile deprotecting the protecting agent of C(7)-OH;
- i) neutralizing with an acid;
- j) extracting with an organic solvent insoluble with the inert solvent
15 in step g) and water; and
- k) removing the organic solvent in the extract phase to obtain C(10) acylated taxanes bearing C(7)-OH and C(13) side chain having C(2')-OH.

19. The process according to claim 18, wherein tetrahydrofuran in step (a) is pre-dehydrated; the organic solvent insoluble with tetrahydrofuran in step (e) is selected from dichloromethane and trichloromethane; the inert solvent dissolving 2',10-diacyltaxanes in step g) is alcohols; the weak alkali selectively hydrolyzing acyl esters at position C(2') in step h) is selected from sodium bicarbonate, potassium bicarbonate, dimethylamine,

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diethylamine and aniline; and the organic solvent insoluble with the inert solvent and water in step j) is trichloromethane.

20. The process according to claim 19, wherein taxanes as the raw material bearing C(7)-OH, C(10)-OH and C(13) side chain having C(2')-OH are natural or processed 10-deacetylpaclitaxel or 10-deacetylcephalomannine.

21. The process according to claim 20, characterized in that the acylation is conducted at a room temperature, and the selective hydrolysis is conducted at a temperature $\leq 3^{\circ}\text{C}$.

22. The process according to claim 18, wherein the synthetic taxanes are paclitaxels.

23. The process according to claim 19, wherein the synthetic taxanes are paclitaxels.

24. The process according to claim 20, wherein the synthetic taxanes are paclitaxels.

25. The process according to claim 21, wherein the synthetic taxanes are paclitaxels.